

**UNIVERSAL
MONO-TABULAR CORPORATION
DALLAS 1, TEXAS**



MANUAL



The MONO-TABULAR BROACH AND CABINET

IMPORTANT TO THE OPERATOR OF THIS BROACH!

You must read and study the instructions carefully before attempting to use this broach, most phases of operation, methods of makeup, **proper broaching rules** and the most common difficulties encountered are **fully covered herein**. If its operation is fully understood, you will enjoy satisfaction in producing quality forms in the very easiest and quickest manner, thus insuring complete satisfaction as well as pleased customers.

*It is the pride of the composing room equipment in thousands of
Commercial Printing, Lithographing Plants, Salesbook,
Typesetting and Trade Plants*

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UNIVERSAL MONO-TABULAR CORP.



*Manufacturers and Distributors of Honig Multiple
Broach and Supplies, Honig Rule Cutter,
Universal Strip Caster*

DALLAS I, TEXAS



HOW IT WORKS

TO REMOVE PUNCHES AND RACK ASSEMBLY (AU-8) from the broach: First, lift handle (U24) upward, release lock lever (U3) on the right by raising up and pressing all the way back. Lift the rack with both hands by the standards at each end (AU8), being careful not to tilt downward until completely clear of the machine, as this will cause punches to fall off into the machine. To remove punch assemblies from the rack, tilt downward and punch holders will drop off. Gather them up and separate the No. 1 from the No. 3 punches. You are now ready to begin.

ITS OPERATION

FOR SETTING PUNCHES TO REGISTER COPY: Place punch rack assembly (AU-8) on its back and directly on top of copy parallel with horizontal lines, the left inside of the rack assembly must line up with the left side of the horizontal rules to be broached, by a slight movement with the index finger, move the U-8 adjustment nuts nearest to the down lines required so that they center exactly over the lines. When it appears that the line in the center of the nut registers to the line on the copy, it will be positioned exactly. Next place the punch holders on the mounting nut as shown in center page illustration, being careful not to move nut from position (*be positive there are no chips of metal on the deck of the broach before locking in the punch holders, for if they are seated on chips of metal from previous broaching, they will become mashed to the base of the punch holder and not allow them to seat level thereby causing the rule to bend when broached*), lift rack up by the standards on each end, and place in the machine, being sure to place it *against the left side upright* (U60), and to the front of the machine. Press lock lever (U3) at right down securely to lock punches in. Extreme care should be taken not to allow the top pressure bar (U-2) to drop down before the punches are locked into the machine, if so, it will cause the punch pins to become bent and guide straps of dies to break out and damage resulting from carelessness, making repairs or replacements necessary, for which a charge will be made. Before starting to broach make sure the left side guide extension (U33) is locked securely, by screw (U22) which is LEFT HAND threaded, and the screw adjustment (U57) thereon is lined up even with the zero mark on the machine. You are now ready to broach material. (On small forms without many down lines, gauge can be held in hands and the nut set to the pica markings on the gauge.)

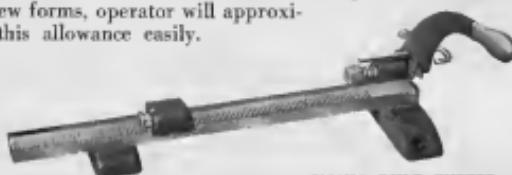
BROACHING: Cut rule material the proper length, place each piece in the machine by pressing the rule adjustment bar (U32) in front down, making sure the strip is placed to the left, and against the adjustment screw (U57). The releasing of the rule adjustment bar will hold the material securely in the punch holders. Push down on the operating handle (U24), and punches will perforate the rule

at the proper places. After broaching the first piece, it is well to lay same on the copy and check for register of the setting. If any particular punch is not set exactly, it is a simple matter to correct without removing from the machine by releasing the lock lever (U3) and moving the mounting nut of the particular punch with the finger from the back. If the starting point has been missed in setting to copy, correction can be made by simply turning the adjustment screw (U57) on the left, either in or out, which moves the rule to the right or left as the case may be. The screw adjustment is calibrated on point system, one-half turn equalling one point.

In broaching a job where some of the down lines do not go all the way through the form, or stop at some particular heading lines, do not unlock and re-set the punches, or remove the holders—simply lift up operating handle, and pull out the punch pin from the holder. NOTE: A good suggestion where this condition exists, is to set aside the number of horizontal rules where stops occur, broach remainder of the rules, then complete the job by broaching the rules set aside that require punches to be pulled. On heavy forms broach may be operated by foot by connecting up the foot pedal at the back of the cabinet to the rear end of the operating handle.

COMPOSITION

After all horizontal rules have been broached, place in galley, insert type matter, space out, etc., then insert the vertical rules. Care should be taken in inserting the vertical rules in the form so as to not injure or bend the face of the horizontal rules. *Before inserting the rules, smooth them lightly on all sides at the end with a small, flat file (about $\frac{1}{2}$ inch) which will remove all burrs.* Slide rules into the notches gently, and cut off with sharp snips. (It is often easier and more desirable to cut the rules to proper length with a slig cutter before inserting in the form.) We recommend the Honig rule cutter for this purpose as it is calibrated to cut the rules to exact measurement in picas and points up to 100 picas, as well as having many other varied time saving uses in rule form composition. Care should be taken in cutting rules to length. Make proper allowance for the squeeze of the form when locked in chase, especially where it contains much linotype material, as unless this is done, rules might puncture or bend heading lines when locked up. Usually a couple of points allowance is sufficient, but after experience with the broach on a few forms, operator will approximate this allowance easily.



HONIG RULE CUTTER

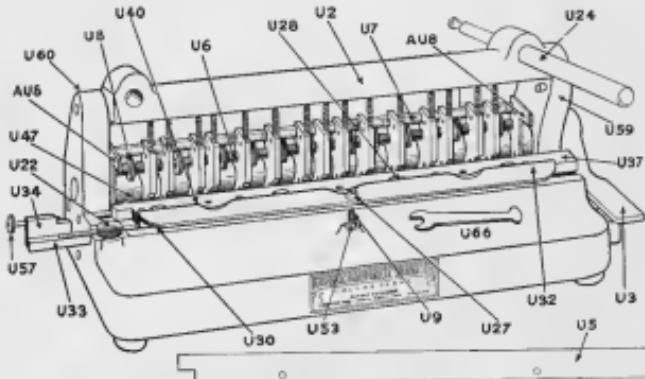
SUGGESTED METHODS OF MAKE-UP

In setting a job where there are, for instance, 20 down lines, with a heavy division line in the middle, say 10 lines on each side, and the last side a duplicate of the first, and there are not enough punches in machine to complete in one operation, set the first half, including the division line. After broaching all of the rule, do not unlock, but just lift handle upward, remove only the punch from the holder above the heavy division line, and pull the extension guide on the left out to the middle. If the job was 100 picas long, it would only be necessary to pull the extension guide out to 50 picas.

HOW TO ADJUST BROACH

Read this adjustment through carefully and refer to the numbered cut illustration so as to familiarize yourself and know how before starting. It's very simple.

This adjustment has been made in our factory and locked into position and should not be necessary to change. If there is a variation in materials and resetting is necessary, the following method should be employed: First, take the punch mount and turn the adjustment nuts U8 until they are evenly spaced from AU8 left to AU8 right; next, place punch holders over nuts as follows: skip first nut, mount three No. 1's, skip one, mount two No. 1's, skip one, mount one No. 3, skip, mount two No. 1's, skip, mount three



No. 1's, place in the machine and lock; next, loosen lock nut U53 in the middle of the rule adjustment bar U32 and turn screw U27 left so as the adjustment bar will be slightly above level, loosen lock nuts U53 on each end and in the middle of the adjustment bar U32 with

special wrench U66, back all three screws (U30) out. Place two pieces of 6-point blank high material or linotype blank slugs about 20 picas long in the machine at each end. If one of the blank slugs on either side feels looser, tighten with screw driver, by turning screw U30 with the right hand to the right, at the same time using the left hand to feel by moving the blank slug on the right to the left and right gently, then the left side blank slug in the same manner and vice versa, until exactly the same tension is felt on each end. During this adjustment, turn screw U27 first to the left to tighten, then to the right to let off tension. When both sides have been set exactly, turn screw U27 just enough to reduce the tension from the blank slugs on each end and turn the middle screw (U30) in until tension is just felt on either blank slug, making sure this screw is set in line with the ones on each end. Turn screw U27 to the right to take off pressure from the blank slugs just so they can be moved gently from left to right without binding. During the setting be sure that all nuts (U53) have been tightened to lock screws.

Time for adjusting should not take over 10 minutes.

LEFT SIDE GUIDE (U57) ADJUSTMENTS. In starting, when the punches have been set to register a job, it is seen that the starting point is missed or the space is not proper in the first column, without removing the punches, it is only necessary to turn point screw U57 to the left to give more space, or right for less space. In plain words, this is most helpful in registering the starting point or first line of copy.

One half turn on the screw or click represents one point. The lock screw (U22) holds the extension gauge (U33) tight and has a *left hand thread* to better secure the locked position when in use. *To loosen, turn right.*

ITS CARE

HOW TO KEEP THE BROACH IN PERFECT MECHANICAL CONDITION: Care should be taken not to allow excess oil on the punches or punch holders where they engage, as this will cause chips of metal to stick to the holders and may not allow the rule to properly engage the holders. Put a few drops of good light oil on a piece of cloth to wipe punches and occasionally rub the shaft (U47) which locks the punch holders in, also the base where the punches lock, and wedge bar (U37) against which the punch-holders rest. Add a drop of oil to the shaft where it works in the bearing housing, also on the housing where the punch operating pressure bar (U2) moves. Do not let dust from spray guns or rust accumulate on any part of the machine or cabinet and keep inks wiped off.

MAINTENANCE: The Mono-Tabular Broach is a very valuable piece of equipment, and should be given good care. It has been manufactured from quality materials, machined precisely, and pro-

danced under exacting inspections to give you a machine fully adapted to produce satisfactory results. The punches are made from a special wear-resisting hardened steel, ground to a close tolerance. They are interchangeable from one holder to another in their own style. (Caution) Do not under any circumstances hone or sharpen the punch pins. Any attempt to do so will only distort the angles and cause trouble. When it appears that the punches are not perforating cleanly or bending the rules, the cause is usually in the TYPES OF RULES being broached or the broach setting is out of adjustment. If unable to determine the cause or remedy same, write the company and submit proof sheet and samples of the rule being broached.

HOW IT WORKS WITH TYPESETTING MACHINES

To use rule cast from typesetting machines it is essential that it be cast from the proper slide, that is, cast with a shoulder on the slug at .875 high. *Do not attempt to broach column rule*, as it will not work satisfactorily. Most plants have the Tabular system slides; if not, they can be obtained from this office. They are designated as # M-T 400 for the 6-point hairline centered, and # M-T 404 on the 1-point face. Where rules cast from typesetting machines are used and a side face rule is required, this can be obtained from the M-T 400 and M-T 404 center face slides by reversing these slides in the mold block. In order to do this it may be necessary to remove the small stop pin in the mold block, which does not affect the operation, but care should be taken to see that the slides are properly positioned so as not to interfere with mold lock up.

Rule and spacing material should be cast in slack time and stored for use when needed.

The vertical rule is .041, and shoulder on slug base is .875. Type high is .918. The broach is designed to take up the variation of .002 by the adjustment on the pressure bar (U32). This method enables you to produce a form that requires little, or no make-ready at all, and results in a perfectly level and solid form.

Place the broached rule in the galley and space the heading set by the typesetting machine between the broached lines, as in setting a book heading.

FOR DOWN LINES THAT ARE SPACED 9 POINTS APART, ETC.: The punch holders measure 12 points wide (.168). The rings are also .168. Move the rings 18 points apart (that is, from center to center) and place holders thereon. After broaching, move the extension guide out 9 points and broach again. For anything less than 12 points set the punches twice as wide, then pull the guide out half the space. This makes the broaching very rapid and accurate for close lines, and also saves the time of resetting the punches, as they will strike in the middle of the broached line.

TO CORRECT THIS CONDITION



It is only necessary to loosen lock nut U53, turn screw U27 one-fourth turn to the right, hold with screw driver while locking nut U53 again.

If the rules have too much impression, turn screw U27 one-fourth turn to the left.

If the rules show more impression on one side of the form, check for accuracy. See paragraph HOW TO ADJUST BROACH.

THIS IS THE SAME SETTING, EXCEPT SCREW U27 WAS TURNED TO THE RIGHT ONE-FOURTH TURN



The top form was broached with the adjustment bar U32 too tight. The bottom form is exactly the same set-up, nothing having been touched excepting screw U27 as defined above.

In the final step, a check can be made before broaching rule by first using the 2-point shim (1/5) and placing a 2-point strip piece of rule about 60 picas long into the machine as if to be broached. The 2-point strip should slide freely from right to left without pressure being felt; if not, turn screw U27 to obtain this result. Care must be taken not to cause the strip to have too much forward and backward motion, otherwise the vertical rules will show too much impression.

U.S. Patent No.'s 2
Canadian Patent

Patent Licensed No.
16825

Other Patent



153890-2338940

1 No. 409728

1682514-1682515

16

Pending



FOR DOWN LINES THAT ARE SPACED 13, 14, 15, AND 16 POINTS APART, ETC.: Various methods can be adopted by the operators which are best suited to the individual. We suggest for 13-point spacing, positioning the first ring on the required line, and put the punch holder thereon. Next hold a piece of 1-point brass rule or other material with the left hand against the punch holder, and run the next ring up against it. Or, for 14-point spacing, hold a 2-point piece, etc. By this method it is not necessary to look—go by feel. It saves the eyes and is very fast and accurate. It also relieves all doubt about not having the right spacing between the down lines.

MATERIALS BEST SUITED FOR BROACHING

Strip material cast from the Universal Strip Caster is best suited for broaching as all the rules cast from this machine have the proper angles. Materials cast from Monotypes, Elrods and other similar machines, 2-pt. center hairline, 2-pt music face and 6-pt. center hairline will also broach satisfactorily if the angles conform to specifications as shown on page 13 in this manual. The U-5 shim should always be used when broaching 2-pt. rules, and 2-pt. music face rule must be placed in the machine with the angle side down. Rule cast from slug casting machines, except column rule will broach very satisfactorily. Try it first with the rib up, then down to determine which way will broach best without breaking or bending the face. Where parallel lines are required, it is best to broach two 2-point rules. Full length of 24-inch strips can be broached by the use of the extension gauge.

6-PT. TYPESETTING MACHINE RULES:

6-pt rules cast from typesetting machines broach perfectly when cast from the proper slides.



Refer to the following numbers when ordering slides;

6-pt. center hairline	Slide M-T 400
6-pt. music face	Slide M-T 404
6-pt. leader line	Slide M-T 202

Standard height slugs cast from typesetting machines can be used for spacing material and can be cast up ahead in slack time.

CORRECT BROACHING RULES

(Read and Study Carefully)

Shown below are the types of rules that will broach properly. If care is taken to use the proper rules the highest results will be obtained.

NOTE: Parallel rules are *NOT* suitable for broaching as the punch pins will pinch the rules together when perforated. When a broached parallel line is required, broach two 2-pt. rules and place them together. (This applies to hairline or 1-pt. face). Full 2-pt. face rules and standard column rule must not be broached.

★ Rules cast from the UNIVERSAL STRIP CASTER are best suited for broaching as they have the proper angles and will broach clean without bending the rule face. 2-pt. or 6-pt. Monotype or Elrod cast strip rules will broach satisfactorily if the angles conform to drawings below. Try broaching different samples of rule for your own evidence.

END VIEW OF RULES

ANGLES ON BOTH SIDES
MUST BE PERFECTLY STRAIGHT

6-pt. Center Hairline



ANGLES PERFECTLY STRAIGHT
FLUSH CORNERS HERE WITH
NO OFFSET OR LINE SHOWING

2-pt. Center Hairline



ONE SIDE FLUSH
OTHER SIDE WITH STRAIGHT ANGLE
NO OFFSET SHOWING

2-pt. Blackface
Place bevel down in broach

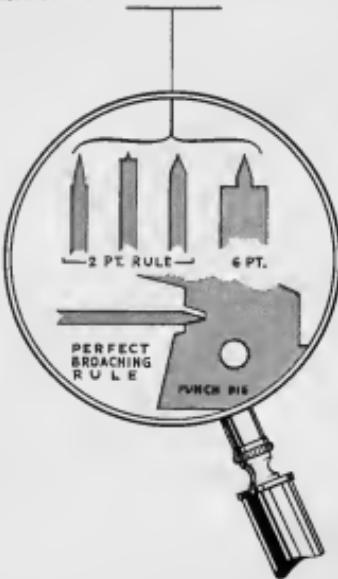


The correct height for the shoulders of rule and spacing materials is .875. If your present casting machines do not cast the proper type rules for broaching as shown above, the molds should be sent to their respective manufacturers with the request that they be corrected to cast the rules for broaching in the Universal Mono-Tabular Broach.

In ordering strip rules from outside suppliers, be sure to specify "for broaching use."

INCORRECT RULES

The angles on the rules shown below ARE NOT SUITABLE for broaching as they will bend when broached and thus show a slight wave in the printed form.



STRIP RULE FOR BROACHING

We recommend the use of strip material cast from the Universal Strip Caster. Monotype and Elrod make a special mold to cast rules to be broached. It is also practical to adapt Monotype and Elrod molds to cast the proper style rule, which can be done at a very nominal cost, and does not impair their present use, but makes them more versatile. If you do not already have the proper molds for tabular work material, we suggest that you get in touch with your nearest representative of the respective makers of the style machines you have, or write the manufacturers direct, as they are thoroughly familiar with the requirements.

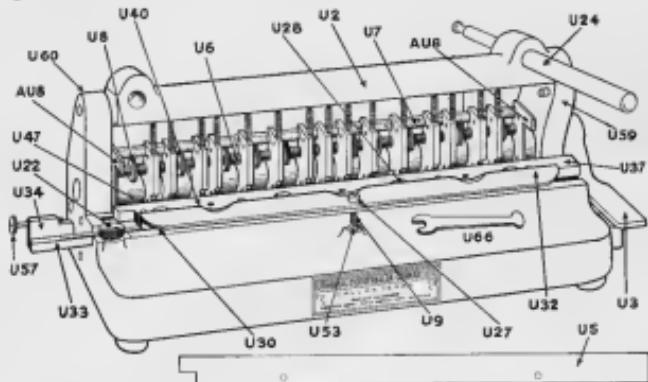
MONO-TABULAR MATRIX EQUIPMENT

Mono-Tabular matrices for use in setting table matter forms such as insurance rate books, time tables, etc., are designed to run in 6-pt. or 8-pt. typesetting machine magazines, dropping in channel # 40. The matrices cast pairs of lugs where down lines are required. In composing a table job it is only necessary to set exactly as though the vertical linotype rule symbol matrices were being used.

The vertical rules are inserted between the lugs and for proofing purposes, close one pair of lugs at the top and bottom just sufficiently to prevent the ink rollers from lifting the rules. Proof rollers should whenever possible, roll over the form parallel with the vertical rules. The remainder of the lugs can be closed after the form is OK which can be done with a make-up rule, thus anchoring the vertical rules firmly onto the slugs.

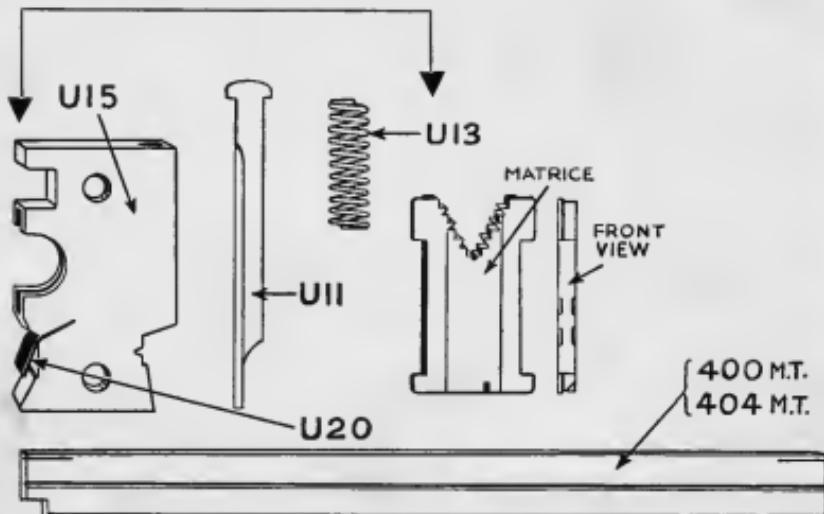
The lugs cast by the matrices are wide enough to carry the No. 1 (hairline) or the No. 2 (music face) vertical rules only. They will not carry the regular No. 3 (light parallel) rule, however if a parallel rule is required, a special narrow base parallel rule is available for this purpose only. This is designated as No. 3 "Special."

REFER TO NUMBER AND DESCRIPTION IN ORDERING PARTS



U-2	Pressure bar	U-28	Wedge bar screw
U-3	Eccentric lock lever	U-30	Angle bar screws
U-5	Shim spacer	U-32	Rule adjustment bar
U-6	Adjustment screw shaft	U-33	Bottom scale
U-7	Top scale	U-34	Gauge block
U-8	Adjustment nuts	U-37	Wedge bar
UA-8	Rack assembly	U-40	Springs in wedge bar
U-9	Angle tension spring	U-47	Eccentric lock shaft
U-11	Punch pin (No. 1 or No. 3)	U-53	Angle screw lock nut
U-13	Punch spring	U-57	Point screw
U-15	Punch die (No. 1 or No. 3)	U-59	Right upright
U-20	Die tension spring	U-60	Left upright
U-22	Scale clamp screw	U-66	Wrench
U-23	Rubber handle grip	MT-400 Linotype Rule Slide (Hairline)	
U-24	Handle	MT-404 Linotype Rule Slide (Music Face)	
U-27	Front angle screw	#5601-5" Beveled Rule Cutters	

PUNCH ASSEMBLY COMPLETE
(Specify—No. 1 or No. 3)



NOTE BEVEL
GROUND FLUSH

SERVICE

The company maintains a service for the reconditioning, cleaning and adjusting of the broach machines at a nominal cost.

Upon request a locator machine will be supplied during servicing period, all shipping charges to be paid by customer.



**PLEASE ORDER
VERTICAL RULES
BY NUMBERS**

Users will find it false economy to pull rule out of dead forms for further use.

Extra punch assemblies, punches, holders, matrices, etc., can be supplied to your order. (See Parts List.)

Mail All Orders to

UNIVERSAL MONO-TABULAR CORP.
706 Olive Street
DALLAS 1, TEXAS

The World's Finest Rule Cutter...

Every printing shop should have a good rule cutter in connection with their broach for cutting vertical rules to precision lengths, eliminating all possibility of short and long lines.

Use of the Honig rule cutter is quicker and more positive than using the saw for cutting 2-pt. strip rule in the broached slots for heads, also when a light and black line is needed.

HONIG RULE CUTTER



3 OUTSTANDING ADVANTAGES *Not found in any other rule cutter*

1 It cuts as clean as a saw; the blade strikes the rule in such a way that it will not bend the face on the rule. Its modern design also requires far less pressure to cut material.

2 A strong spring (shown in illustration) serves two important purposes. First, it holds the upper knife blade tight against the shear blade to prevent looseness between blades, thus making a cleaner cut. Second, it provides the means for lifting the lever and

blade upward, a much better action than on the conventional type.

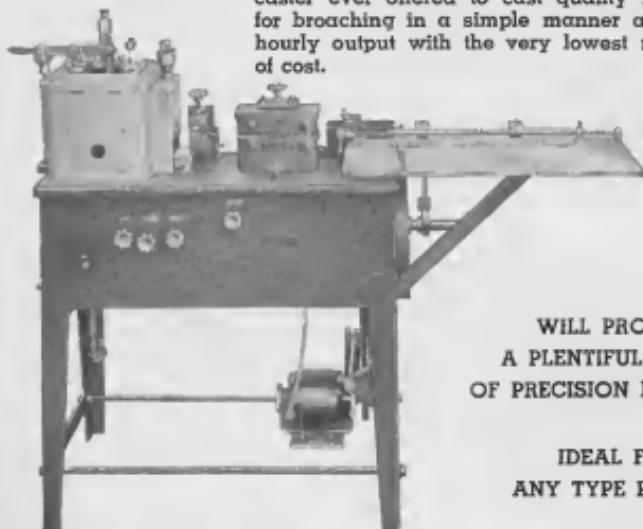
3 It has a point system on the gauge stop, and cuts up to 100 picas by nonpareils and points. The point block is adjustable to precision cuts.

Completely guaranteed against all defective material and workmanship.

Capacity 100 picas by nonpareils and points. Shipping weight: approximately 14 pounds.

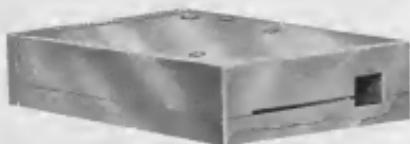
THE UNIVERSAL STRIP CASTER

Here is the most efficient and most durable caster ever offered to cast quality materials for broaching in a simple manner at a high hourly output with the very lowest minimum of cost.



WILL PROVIDE
A PLENTIFUL SUPPLY
OF PRECISION MATERIALS

IDEAL FOR
ANY TYPE PLANT



Inserted slide method of casting assures perfect rule faces and borders in full length flexible strips with proper angle for broaching.

Only one mold of each size required. Various faces are obtained by simply changing the insert slides.



(Write for Full Particulars)
Manufactured and Sold by

UNIVERSAL MONO-TABULAR CORP.

706 Olive Street

DALLAS 1, TEXAS

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IT IS OUR sincere desire
that you shall always derive from your
Mono-Tabular Broach the full measure
of service, speed and ease of production
that we have earnestly built into it, and
with the installation of this equipment
in your plant, we trust, will be the begin-
ning of a mutually pleasant business
relationship between us.

May it grow closer as the years pass.





